Central Lakes College
February 23, 2021- Byron Team Meeting

Attendees: Luke Warmbold, Hannah Barrett, Todd Pollema, Cory Detloff, Tiffany Klaphake, Keith Olander, Ryan Perish, Kent Solberg, Luke Stuewe, Dan Whitney, Kristi Anderson

Introductions
Look at what happened in 2020
Keith – field day at CLC is a go as of right now
- Hoping to have additional training around cover cropping and grazing
- Ron is on vacation

Todd – Byron 1 is soybeans, #2 DRK, #3 & #6 DRK, #4 Corn, #5 DRK, #7 & #9 Potatoes, and #8 & #10 DRK
- The SE side of #8 & #10 was mostly soybeans last year and we're hoping to do 60in. corn with incorporated cover crops. This is about 10 acres.

Luke W. – nothing has changed as of right now for crop plans on RDOs end
Todd – plan for 2021 for Byron 1 was discussed
- Soybeans were planted in 2019 on Byron #1 and the plan is to follow this general plan

Luke W. – plan is to keep water data low
- Soybeans didn't effect wells much

Todd – light tillage in 2019 before planting
- 2020 barley was planted and cover crop was the volunteer barley
- Tentative plan to no-till into Barley stubble this year

Dan – nitrogen applied in 2020?
Todd – spring PP: 10-10-30-10
- 1st top dress: 40-0-0-6
- 2nd top dress: 40-0-0-6

Keith – froze last spring right before 1st top dress
Todd – definitely set it back 70 bu/A
- Barley greened up over the weekend

Keith – 80-90 bu/A is more typical for yield
- No way to account for this economically

Todd – corn had to start over too
- Went over yield map
- Off JD combine – combine was not calibrated properly
- 2,000 bu/A off compared to what actually was harvested
- Management record went off of actual bushels in the bin
- Irrigation records (barley was irrigated May, June, and July)
- Corn and DRKs into Aug and partly Sept.
- Dry in May
- #1 slow pivot, hours are generally higher

Kristi – Agsense is not always accurate
- Dan and her track irrigation
- #'s don't' always add up

Ryan – didn't separate out rain vs. irrigation water
- Could do this if he worked with Todd

Todd – don't have rain gauges under the pivot

- Rain gauges for rain water

Kristi – Byron #1 is accurate as far as she knows

- #'s may have changed since the last time you checked
- Agsense has issues – DNR – needs it to be accurate
- Data connections cause issues in #'s

Keith - #2 has horizontal water flow, does it affect #1?

Todd - #2 hit hard by frost and bounced back well

Ryan – no way to separate it out with the instrumentation that they have located around Byron #1 to see if #2 is affecting #1

Luke W. – hard to say if it is or not based off the potato year as there was a lot of seed decay due to hot weather

- It wasn't an average

Todd – red strip in yield map was a popular bear destination

Luke W. – got a couple of bear

- The red strip is also dryland area

Todd - #'s seem kind of high for actual water applied when looking at the irrigation report from AgSense

Luke W. – Todd, Ron, and I talked about irrigation as there was about three to four fields where more water than what was on the permit was applied

- Corn on Byron, heavy on water usage
- AgSense was off a little
- Keep an eye on it as the eason goes along

Keith – 3 and 6 irrigation schedule

- #6 went over on water

Hannah – Byron #5 had AgXplore sustain trial located on it

Todd – no yield maps for DRK

- Waiting to pair combine with tractor for the upcoming season
- Cover crop planted on 7 and 9
- Corn stubble on 8 and 10

Keith – disappointing yield on 8 and 10 around 110 bu/A

Todd – back side of these fields to the east is where the 60 in. corn rows will go

- Planted into soybeans for crop insurance purpose
- Different variety of corn
- Did not recover as well after frost – more plant loss
- 3, 6, and 5 recovered better from the frost

Dan – cover crop planted in fall, what was it and the sequence?

Luke W. – let volunteer barley come up on Byron #1

- No cover crop on any corn ground
- 7 and 9 had rye in after the beans came off

Todd – germination was good

- Very dry, popped out of the ground
- After it started growing it rained and the weather cooled off, almost froze
- Didn't get going very well
- Oct. 18 it snowed
- Planted Aug 25 give or take
- Rate was 2-2.5 bu/A for planting
- 7 and 9 were the first DRK fields that were harvested

Ryan – well data

- Barley was around 10 ppm-20 ppm
- Lower than soys

Keith – Preplant fertilizer based on what you're seeing
Luke W. – take risk out of it if you eliminated the PP fertilizer
Todd – typically put PP down before on soys

- Put PP down post emerge on Byron #5
- Irrigation used to incorporate the PP

Dan – we see effects of PP in ground water

- It climbs

Ryan – graph of ground water

- 85 percent of samples are below median
- One well was not tracked during a short period of time
- Well in SW corner has gone down and stayed down

Luke W. – before 2018 grass cover was planted

- Had rye on Byron #1
- 2018 volunteer rye was on corners
- Tried grass and clover – didn't take very well
- Planted a mix between 1 and 2 and in NW corner (2020)
- Kent came up with the mix and Hannah ordered it

Ryan – NW considered and its concentration
Luke S. – data doesn't appear to show an influence of #2 on #1
Dan – grass strips?
Kristi – dilution of water with ground strip

- Takes up N

Dan – what's being evaluated??

- Crops and effect on groundwater

Luke S. – extreme change from a course field typical management

- Economic piece
- Value in monitoring
- Useful information, we're at the mercy of the landowner
- Rotation and management done differently if MDA had managed it
- MDA is following along

Keith – wants to remain authentic in farming practices of the area as concerned to nitrogen and nitrogen stabilizers
Dan – are nitrogen stabilizers not widely used?
Keith – correct, could be incorporated later into the plan
Cory – DAP and AMS do not typically have inhibitors applied to them

- Designed to go on urea, not PPs
- More costly on PP's and not seen as much due to the nature of the fertilizer

Luke S. – ground water protection rule and its effect on PPs

- Follow university guideline of no N used on soybeans

Dan – monitoring on several wells

- Concentrations are lower
- Standard ag management
- Doing it right, whatever we're doing

Luke S. – unique rotation with rye, peas, and cover crops

- Not traditional corn, soybean, potato rotation

Keith – economics, more losers than winners when it comes to the crops we're growing
- Making money – No
- Not losing farm yet
- Do practices and look at farm viability

Ryan – financials #'s
- One year was profitable

Kent – copy of table?
Dan – total gross return?? – (yield) x (price)
Keith – put on lime, land was very acidic
Luke W. – when they farm, they apply lime
Kent - #'s without government subsidies
Keith – first year was kinda bad
- Take 2014 out of the equation
- Not normal with stumps and liming done after the fact due to the acidity

Luke S. – keep it in and include it
- Excluding it would miss part of the story

Keith – do a space and division in the table for 2014
Kent – half of all the losses are in the 1st year
Todd – average loss/A was $64 with 2014 and average was $35 without 2014
Hannah – limed 3, 6, and 5 with Ag and Pell lime in 2015
- Ask Ron on liming in 2014

Dan – don't have a lot of data to share
- Utilizing MDA data
- N-application data will be useful
- After application concentration went up

Ryan – Keeler Andrews – DNR with St. Paul
- Link to report on MDA website

Keith – water level staying steady?
Dan – that's correct
- Back where we started in 2014

Luke S. – transducers – DNR placed these at the study
- Battery is dead and DNR asked MDA to replace it
- Response was MDA is not fixing it that is the DNRs job

Kristi – DNR has an incredible amount of data online
- Have extensive data

Kent – draw down of groundwater
- One of their concerns

Dan – anticipate water levels to go up
Keith – legislative actions?
Dan – none that they know of
- Tim Nolte was granted permits in June

Luke W. – goal of project is up in the air
- Plans have been from keep putting crops up there and minimize inputs
- Need to put potatoes up there with minimal N inputs
- Put it back into trees
- All over the place since he's been here starting in 2018
- Luke goes to Nick and Nick goes to Keith McGovern and then the information is relayed back

Dan – he and Kristi are going forward status quo
Keith – other projects
- LCCMR-around hemp – 1 yr. delay
- Water quality study
- Kernza sitting in LCCMR as well
- Run on shoestring budget for this year
- Student worker continue to do collection and analyzation
- edible beans have a large segment of research

Dan – NW Pivot – AgXplore Study
- Three growing season of data
- 1 more growing season for that study

Keith – informing folks that Ron Nelson is going to retire and the transition that will be taking place
- Plans to hire someone for the summer season
- Todd has been a great fit
- Posting full-time position soon
- Personnel changes coming soon
- If you know of anyone let Keith or Cory know
- NRCS – multi purpose
    - hire 2 students as interns-pilot
    - 10 interns next year (expand)
    - Doing some training (15-20 techs and immersion)
    - Hire individual that has a degree
    - No concept of ag
    - Professional development
    - NRCS – down several thousand people
- Agronomy Program – HLC
    - Approval – start fall of 2021 or 2022
    - Faculty member and regular student engagement
- Two interns hired – 1 more slot for the summer potentially
- Ag Advisory – participate in questions – Annual Report

Luke S. – support Vasu Sharma at Rochsholdt farm
- 90 lysimeters were installed
- Fabian Fernandez – inter-seeding with clover
- Vasu also has work at Becker
- Weather station network – all serviced in NDAWN
- Implementing ground water protection rule
- Drinking water management areas
- Stakeholders – mailings
- Restrictions ease and hope to meet personally
- Hiring freeze lifted – 5 people down in their unit
- Margaret Wagner – supervisor

Kent – cooperate with CLC on field day
Hannah – shared cattle data
- Will put in a spreadsheet

Todd – 2019 dug water hole or pit for watering
- Tanker was not used in 2020

Keith – long term cover cropping and grazing is a goal

- Chemicals are inhibitive of cover cropping
- Take east side of 8 and 10 and do 60 inch corn rows (Cory and team in charge of this)

Luke W. –sounds good on the 60" corn rows

- Cover crop rye or barley, depends on harvest
- Put something on- depends on cropping plan in 2022
- All seed potatoes in 12' beds
- Drilling everything
- Lost so much seed when spread seed on before harvest of potatoes and it got buried 6"

Keith – 8 and 10 DRKs

- Chunk for 60: rows

Hannah – Reflex is a big issue for rotational restrictions and what you can plant

Kent – put cover crop in V3 or V4 timing critical

- Get corn a head start
- Do some comparisons
- Watch herbicides
- Don't plant cover crops that compete with corn
- Look at herbicide history

Keith – 60 inches for corn row

Kent – combine it out

- Will see less yield
- People move to 40s or 44s
- Hard to keep plant population up
- Side by side comparisons
- Other source-grazing
- As close as you can get the planter to 34,000 population

Todd – flex ear 3 cobs/stalk to help keep yields high – planted at 32,000

- Plug every other row and plant at 60,000
- Planted at 60 inch rows and in twin rows (ton of interest)

Keith – PLFA and Haney?

Kent – continue to do both

- PLFA gives a picture of the soil microbiology – splitting soil analysis
- Haney – utilization of nutrients in soil
- Bench mark was started last year in the triangle to the west by the county road in between 7 and 9
- Byron #7 going backwards since complex cover crops
- Want to continue to monitor it
- In the 10 A pull 1 or 2 samples as a benchmark this spring
- Take a sample in the fall as well

Keith – multiyear cover crops in 10 acre chunk

Kent – set up a plan for 2022 and 2023 based on that knowledge

- Plant diversity
- Positive things that happened in field $7

Keith – doing three studies in collaboration with the FBM on economics and environmental practices

- Looking at water quality certificates
- NDSU is also involved with the environmental practices in ND (more of a national study)
- Stearns county is looking at carbon storage credits
- Coming at us full force from legislature
- Water quality

- Parallel work at S Byron

Kent – facts of where food is produced is printed on cereal boxes

- Animal welfare
- Dairy initiative
- Carbon credits

Keith – Grand Farm – Microsoft funded

Cory – met with them

- Received 20 projects last year and were thinking of only 12
- They have a 40 acre research area
- Farm of the future 2025

Keith – bigger land base here at the Center

- Technology is coming down the line
- Todd and Hannah work with Kent on 60inch rows and cover cropping

Kristi – no test wells on the South side

- Look at pivot levels
- The well is very deep, no monitoring of N

Keith – S Byron – good plan

- Field day and plan will be circulated soon hopefully